

GDC-1 GENES CONFERRING HERBICIDE RESISTANCE

ABSTRACT OF THE DISCLOSURE

Compositions and methods for conferring herbicide resistance to plants, plant cells, tissues and seeds are provided. Compositions comprising a coding sequence for a polypeptide that confers resistance or tolerance to glyphosate herbicides are provided.

5 The coding sequences can be used in DNA constructs or expression cassettes for transformation and expression in plants. Compositions also comprise transformed plants, plant cells, tissues, and seeds. In particular, isolated nucleic acid molecules corresponding to glyphosate resistant nucleic acid sequences are provided. Additionally, amino acid sequences corresponding to the polynucleotides are encompassed. In

10 particular, the present invention provides for isolated nucleic acid molecules comprising nucleotide sequences encoding an amino acid sequence shown in SEQ ID NO:3, 6, 8, 11, 19, or 21, or a nucleotide sequence set forth in SEQ ID NO:1, 2, 4, 5, 7, 9, 10, 18, or 20, as well as variants and fragments thereof.